

[METHODS FOR FORMING PN JUNCTION, ONE-TIME PROGRAMMABLE READ-ONLY MEMORY AND FABRICATING PROCESSES THEREOF]

Abstract

A method for forming a PN junction is described. A stacked structure consisting of an N-doped (or P-doped) layer, a dielectric layer and a nucleation layer is formed, and then an insulating layer is formed having an opening therein. A P-doped (or N-doped) polysilicon or amorphous silicon layer is filled into the opening, and then annealed to convert into a single-crystal silicon layer. Then, the dielectric layer is broken down to form a PN junction.